

**EARLY ACTION COMPACT
FOR THE
State of Tennessee and Tri-Cities Local Area**

Prepared for

**U. S. Environmental Protection Agency
Region 4
Atlanta, Georgia**

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1.0 PURPOSE OF THE EARLY ACTION COMPACT

This Early Action Compact (EAC) serves as a Memorandum of Agreement among government agencies representing, collectively, local governments of the Tri-Cities Area of Tennessee, state government including the Tennessee Air Pollution Control Board (TAPCB), and the United States Environmental Protection Agency (EPA). It is for the express purpose of commitment to EPA's "Protocol for Early Action Compacts Designed to Achieve and Maintain the 8-Hour Ozone Standard".

The "Protocol" allows for early, voluntary 8-hour ozone air quality improvement plans to be developed through a "Compact" between Local, State, and EPA officials for areas that are in attainment for the 1-hour ozone standard, but approach or monitor exceedances of the 8-hour standard. All areas in Tennessee are currently designated in attainment of the 1-hour ozone standard and, based on preliminary data for 2000 through 2002 a number of areas may not be in attainment of the 8-hour ozone standard. Thus, the areas are eligible and a good candidate for the Early Action Compact.

The EAC requires the development of an early action plan that includes all necessary elements of a comprehensive air quality plan, but is tailored to local needs and driven by local decisions. As long as all Compact terms and milestones are met, the effective date of nonattainment designations is deferred, as are related requirements. The early action approach will offer a more expeditious timeline for achieving emissions reductions than EPA's expected 8-hour implementation rulemaking, while providing "fail-safe" provisions for the area to revert to the traditional State Implementation Plan (SIP) process if specific milestones are not met. Currently, EPA plans to make the designations for the 8-hour ozone standard in 2004.

According to the latest EPA guidance, this Compact is to be executed no later than December 31, 2002. The air quality improvement plan required of the Compact is to be completed and its elements submitted to the EPA no later than December 31, 2004 to be incorporated as applicable, into the Tennessee State Implementation Plan.

2.0 BACKGROUND

2.1 Air Quality Status/Trends in Tennessee.

The entire State of Tennessee is currently in attainment for all pollutants with established National Ambient Air Quality Standards. Portions of the State however, are not expected to be in attainment with the 8-hour ozone standard by the end of 2002.

Table 1 provides a summary of the Tri-Cities MSA 4th highest 8-hour average readings for each of 2000, 2001, and 2002 and the design value for the three year period. A design value of 85 ppb or greater represents a nonattainment situation, thus the Tri-Cities MSA area is potentially classified with a nonattainment designation.

Table 1

Summary Data for 8-Hour Ozone Monitoring Sites Within the Tri-Cities MSA for 2000-2002

County	Site Name	MONITOR ID	2000 4th Max.	2001 4th Max.	2002 4th Max.	Design Value PPM
Sullivan Co	Hill Road	471632002 - 1	0.092	0.085	0.093	0.090
Sullivan Co	Ketron Middle School On Bloomingdale Rd.	471632003 - 1	0.097	0.086	0.093	0.092

Data Source Table 1. Final 2002 Data. There are no other ambient air ozone monitors in the MSA.

2.2 History of Local Air Quality Planning Efforts

Ozone forecasting and outreach programs.

Beginning in April 2001 and culminating in September 2002, a statewide effort was undertaken in Tennessee to develop and implement an effective ozone forecasting and public outreach program. The Tennessee ozone-forecasting project focused on the existing metropolitan areas of the state with the support of the local air pollution control agencies, EPA, TVA and the state Air Pollution Control Division.

Several areas of the state are developing or participating in public outreach programs to encourage voluntary measures that can be taken on Ozone Action Days to help minimize emissions of precursor chemicals that contribute to ozone formation and exceedances.

Ozone forecasts were prepared and issued for the Tri-Cities area in Tennessee. Local air quality reports were also prepared and issued for the Tri-Cities area of the state.

East Tennessee Ozone Action Partnership

The Tri-Cities area of upper East Tennessee and Southwestern Virginia, is working to develop and coordinate a working coalition of industry and local citizen groups that can implement an ozone out reach and citizen action program in this region. Participants include a number of local industries, local media and the adjacent state of Virginia that shares the MSA in this region.

2.3 The Early Action Compact/Air Quality Improvement Plan

Areas formally declared in violation of the NAAQS are designated “nonattainment areas” and must meet certain Clean Air Act requirements such as:

- A. New Source Review – requires a comprehensive review of new or expanded industrial operations to minimize air pollution. Emissions controls requirements are more stringent and costly than for attainment areas.

- B. Transportation Conformity – requires a demonstration that regional long-range transportation plans will not negatively affect progress toward attainment or federal highway funds can be withheld.
- C. Rate of Progress Requirements – a certain percentage of pollutants must be reduced each year.
- D. Failure to Attain – consequences of failure to reach attainment by the specified date include stricter control measures and the potential for stiff penalties.
- E. 10-year Maintenance Plan – includes additional or continuing mandatory programs for 10 years following attainment.

The area’s participation in the Early Action Compact Protocol offers several key advantages relative to the traditional nonattainment SIP process. These include:

- A. The EAC Protocol is designed to achieve clean air sooner than would be expected under the traditional nonattainment process.
- B. The EAC Protocol affords the signatories greater flexibility in selecting emission reduction measures and programs that are best suited to local needs and circumstances.
- C. The EAC Protocol ensures deferral of nonattainment designation and related requirements, thereby avoiding the stigma, cost, and economic development impacts associated with a nonattainment designation while the Protocol remains in effect.

The cornerstone of the Early Action Compact Protocol is the Air Quality Improvement Plan (AQIP) developed to reduce local ozone-forming emissions and lower summertime ozone levels. It is the official attainment/maintenance plan for the area to be developed under the EAC Protocol agreement. It is a comprehensive air quality plan that will be incorporated into a formal Tennessee State Implementation Plan, and the area will be required to carry out this plan just as in nonattainment areas. Unlike a nonattainment area SIP plan, though, the AQIP will be tailored to local needs and driven by local decisions. The specific elements required of the AQIP are described below in Section 3.2. According to the EAC Protocol, it must be completed and submitted by no later than December 31, 2004, to the EPA to be incorporated into the State SIP. However, recent guidance from EPA requires that the local plan must be complete and submitted to the State and EPA by March 31, 2004 to provide adequate time for Tennessee to adopt the plan as a State rule prior to submittal to EPA as a SIP revision by December 31, 2004.

2.4 Regional Interstate Coordination

As mentioned previously, the states of Virginia and Tennessee have been working together to develop an ozone action program and outreach activities in the Tri-Cities MSA to educate citizens about personal lifestyle measures they can take to minimize the formation of ozone. Virginia and Tennessee have also participated in the Southern Appalachian Mountains Initiative and in VISTAS to coordinate air quality management in a multi-state fashion in East Tennessee.

3.0 MEMORANDUM OF AGREEMENT

This Early Action Compact (EAC) is a Memorandum of Agreement between the Environmental Protection Agency (EPA), the local governments in the Tri-Cities MSA (Sullivan, Washington, Hawkins, Carter, Unicoi) represented by their County Executives and the state governments represented by the Tennessee Department of Environment and Conservation (TDEC) including the Tennessee Air Pollution Control Board (TAPCB). It is anticipated that the State of Virginia may participate in this compact along with the local governments of Scott and Washington Counties of Virginia. It is for the express purpose of developing and implementing an Air Quality Improvement Plan (AQIP) that will reduce ozone levels and achieve and maintain compliance with the 8-hour ozone standard in the Tri-Cities MSA.

3.1 General Provisions

- A.** The signatory parties commit to develop, implement and maintain the AQIP according to Protocol for Early Action Compacts endorsed by EPA on June 19, 2002 (as supplemented in a letter dated October 18, 2002, from Gregg Cooke, EPA, to Robert Huston, Texas Commission on Environmental Quality), and adhere to all terms and conditions stated in the Protocol. On November 14, 2002, EPA finalized its Early Action Compact guidance memorandum for state and local governments that spelled out specific milestones and tasks for a state or local government to qualify for an early action compact.
- B.** If the area fails to meet all the terms of the EAC, including meeting agreed-upon milestones, then it will forfeit its participation and will be subject to designation as nonattainment according to EPA's 8-hour ozone implementation rules.
- C.** Before formal adoption into the Tennessee SIP, this agreement may be modified or terminated by mutual consent of all signatory parties, or any party may withdraw from the agreement. The local government signatories will approve the AQIP before it is submitted to the TAPCB for inclusion in the SIP. Once the AQIP elements are incorporated into the SIP, any modifications will be treated as SIP revisions.
- D.** The signature date of the EAC is the start date of the agreement's term and the agreement remains in effect until December 31, 2007.

3.2 Air Quality Improvement Plan

The state and local governments agree to develop and implement an AQIP that will demonstrate attainment of the 8-hour ozone standard by December 31, 2007, and maintenance until at least 2012. The state and local governments will develop this plan in coordination with EPA and Virginia DEQ as determined necessary, stakeholders, and the general public. The AQIP will include a process monitor and maintain long-term compliance with the standard. The AQIP will be finalized and submitted by March 31,

2004 for submittal by December 31, 2004, for SIP amendment. If a development or issue arises that may impact performance or progress toward milestones, the state or local government signatories will immediately notify all other signatories.

The AQIP will address the following major elements.

3.2.1 Milestones and Reporting

To facilitate performance monitoring and communication with the EPA, the state of Tennessee and the Tennessee Air Pollution Control Board, and stakeholders, the EAC protocol requires that the EAC include clearly measurable milestones for the development and implementation of the AQIP. Major milestones established for this EAC are shown below in Table 2. The individual participants representing their respective area will assess and report all progress relative to these milestones to the state which in turn will report all progress relative to these milestones in a regular, public process at least every six months.

Table 2. Major Milestones for the Tennessee State and Local Early Action Compact.

MILESTONE	DATE
EAC Memorandum of Agreement Executed	31DEC02
Identify & Describe Local Control Measures Being Considered	16JUN03
Emissions Inventories Completed	30JUN03
Initial Progress Report Prepared and Updated Every 6 Months	23JUN03
Base Case/Future Case Modeling Completed	30SEP03
Control Scenarios Modeling Completed	30NOV03
Adoption of Emission Reduction Measures	30JAN04
Completion/Adoption of Air Quality Improvement Plan and Submittal to the EPA for Review	31MAR04
Submittal of SIP	31DEC04
All Local Emission Reduction Strategies Implemented	31MAR05
Review Progress in Implementation of Reduction Strategies	30JUN06
EAC Expires	31DEC07
Annual Reviews of Growth	2008-2012

3.2.2 Emission Inventories

Base case(s) and related future year (2007) emissions inventories will be developed by June 30, 2003. These inventories will be used for input for SIP-quality regional airshed modeling, thus they must be developed using tools that are suitable for this purpose and approved by TDEC, VDEQ and EPA. The base case(s) inventories will be developed for 1999 or later episodes selected to be representative of typical ozone exceedance situations as determined with EPA episode selection guidance. The inventories will include:

- A.** Point source emissions – employing TDEC and VDEQ Emission Inventory System data.
- B.** Onroad mobile source emissions – employing Mobile 6 emission modeling based on appropriate transportation data for the Tri-Cities MSA.
- C.** Nonroad sources - model data adjusted for local equipment usage.
- D.** Area sources - data based, where possible, on local survey data.
- E.** Biogenic sources – inventory developed employing methods acceptable to TDEC, VDEQ and EPA.

Where practicable, trends in emissions from the various source categories will be analyzed to provide a better understanding of emissions trends statewide and to facilitate verification of accuracy of the inventories.

3.2.3 Modeling

All modeling will be based on the "Draft Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-hour Ozone NAAQS" (EPA-454/R-99-004, May 1999). The modeling will follow the guidance as facilitated by the EPA Regional Office. Regional airshed modeling for the Air Quality Improvement Plan will employ an EPA-accepted modeling technique and appropriate EPA guidance for SIP-level modeling. Modeling protocol development, episode selection, model input preparation, and actual model simulations will involve close collaboration and agreement of the participating representatives, TDEC, VDEQ, the Tennessee Air Pollution Control Board, and EPA. There may also be an opportunity to coordinate with representatives of other planning areas for efficiency and consistency in regional modeling efforts.

Base case and future case (2007) modeling are scheduled to be completed by September 30, 2003. Control strategy modeling including direction (e.g. effectiveness of VOC vs. NOx controls) and range finding (percent reduction scenarios – i.e. needed reduction levels) as well as control strategies scenarios are scheduled to be completed by November 30, 2003.

All adopted Federal and State emission reduction measures that have been or will be implemented by March 31, 2005, will be included in base case, future case, and control strategy modeling.

Modeling efforts will be carefully documented. Model performance will be assessed to assure conformance with EPA's accepted model accuracy criteria. A technical support document describing the modeling effort and attainment demonstration will be part of the AQIP submittal.

3.2.4 Emission Reduction Strategies

Following research of various emission reduction strategies and, with guidance provided by testing of various strategies with the developed regional airshed modeling, the participating stakeholders will select and adopt local emission reduction measures necessary to support demonstration of attainment of the 8-hour ozone standard by December 31, 2007. The research, selection, and adoption process for the local measures is scheduled to be completed by March 30, 2004. However, recent EPA guidance requires that likely local measures being considered for the AQIP should be identified and described by June 16, 2003.

The selected local emission reduction measures will be specific, quantifiable, and enforceable. Specific implementation dates, as well as detailed documentation and reporting processes will be provided for each.

The local emission reduction measures will be incorporated into the Tennessee SIP and submitted to EPA for review and approval. In the event the area desires to add, delete or substitute measures after SIP promulgation, the area will request a modification of the AQIP. Such modification will be treated as a SIP revision and facilitated by the Tennessee Department of Environment and Conservation (TDEC).

3.2.5 Maintenance for Growth

The AQIP will include a component to address emissions growth at least 5 years beyond December 31, 2007, ensuring that the previous nonattainment or attaining participating areas will remain in attainment of the 8-hour standard during that period. The future attainment maintenance analysis may employ one or more of the following or any other appropriate techniques necessary to make such a demonstration:

- A.** Modeling analysis showing ozone levels below the 8-hour standard in 2012;
- B.** An annual review of growth (especially stationary and mobile sources) to ensure control measures and growth assumptions are adequate;
- C.** Identification and quantification of federal, state, and/or local measures indicating sufficient reductions to offset growth estimates.

The AQIP will also detail a continuing planning process that includes modeling updates and modeling assumption verification (particularly growth assumptions) where changes in emissions inventories and growth assumptions warrant. The continuing planning process will consider and evaluate:

- A. All relevant actual new point sources and major modifications of existing sources;
- B. Impacts from increased emissions from potential new source growth;
- C. Future transportation patterns and their impact on air quality in a manner that is consistent with the most current adopted Long Term Transportation Plan and most current estimate of local motor vehicle emissions as adopted in the Tri-Cities MPO's, and any conformity documents approved by the U. S. Department of Transportation and EPA.

If the review of growth demonstrates that adopted emission reduction measures are inadequate to address growth in emissions, additional measures will be added to the AQIP through the SIP revision process.

3.2.6 Public Involvement

Public involvement will be conducted in all stages of the planning and implementation process. Public education programs will be used to raise awareness regarding issues, opportunities for involvement in the planning process, implementation of control strategies, and any other issues important to the participants. Interested stakeholders will be involved in the planning process as early as possible. They will be provided advance notice of meeting times, locations, and agenda for planning meetings. Plan drafts will be publicly available, and the document development process will have sufficient opportunities for comment from all interested stakeholders. Stakeholders will include, at a minimum, local environmental groups, Chambers of Commerce and other business groups, and the transportation community. Public comment on the proposed final AQIP will follow the normal SIP revision process as implemented by Tennessee Air Pollution Control Board, and TDEC as applicable. Semi-annual reports detailing, at a minimum, progress toward milestones will be publicly presented and available.

3.3 Local, State, and EPA Commitments

3.3.1 State and Local Commitments

The State, including TDEC and Local Governments will jointly hold responsibility for the development and implementation of the early action plan (Air Quality Improvement Plan), as well as for maintaining communication with all parties to the Compact. The local government will be the lead agencies in their respective counties. Other responsibilities include:

- A. Drawing up the Compact, which embodies the requirements described in the EAC Protocol, including a time line for milestones;
- B. Completing and signing by all parties of the Early Action Compact no later than December 31, 2002;
- C. Completing and adopting the emission reduction measures elements of the AQIP as part of the SIP no later than March 31, 2004.

- D. Notifying parties as soon as possible if Compact milestones will be missed or have been missed;
- E. Notifying parties as soon as possible if Compact modification/termination is to be requested.

3.3.2 Tennessee Commitments

The States, represented by TDEC and TDOT for Tennessee will provide support to all participants throughout the planning and implementation process. Areas of support will include:

- A. Technical assistance in the development of emission inventories, modeling process, trend analysis, and quantification and comparison of emission reduction strategies;
- B. Necessary information on all Federal and State adopted emission reduction measures which affect the area;
- C. Critical third party review of emissions inventory, modeling, and self-evaluation work;
- D. Technical and strategic assistance, as appropriate, in the selection and implementation of emission reduction strategies;
- E. Technical and planning assistance in developing and implementing processes to address the impact of emissions growth beyond the attainment date;
- F. Maintenance of monitors and reporting and analysis of monitoring data;
- G. Support for public education efforts;
- H. Coordinate communication between stakeholders and EPA to facilitate continuing EPA review of local work;
- I. Propose a modification of the SIP to adopt the appropriate elements of the AQIP;
- J. Adoption of emission reduction strategies into the SIP as expeditiously as possible. The final complete SIP revision must be completed, adopted, and submitted by the states to EPA by December 31, 2004.

3.3.3 Tennessee Air Pollution Control Board Commitments

The Tennessee Air Pollution control Board, in consultation with TDEC, the local governments, interested stakeholders and members of the public will help to ensure that actions under the Early Action Compact are tailored to the needs of Tennessee and the Virginia MSA counties of Scott and Washington and that adequate progress is attained

under the AQIP. In consultation with the aforementioned, the Tennessee Air Pollution Control Board will:

- A. By February 1, 2003 develop a plan for routine state-level consultation with members of the environmental, public health and business communities as well as opportunities for timely public input and comment.
- B. By March 1, 2003, develop measurable goals and milestones, building on those listed in Table 2: identify the consequences of failure to achieve goals and milestones and provide samples of acceptable control measures for the AQIP.
- C. Every 6 months conduct a formal review of progress attained under the EAC, including determining whether the terms of the EAC, in general and with respect to each local area, should be modified or revoked.

3.3.4 EPA Commitments

The EPA will recognize the State and Local commitment to voluntarily adopt an early, substantive, scientifically-based and enforceable attainment plan with early implementation of control measures by becoming a party to the Early Action Compact developed in conformance with the EPA's EAC Protocol. EPA responsibilities include:

- A. Provided that the monitors in the Tri-Cities MSA reflect attainment by December 31, 2007, EPA will move expeditiously to designate those areas as attainment and impose no additional requirements other than those federally approved SIP revisions undertaken pursuant to this Early Action Compact. The Office of Management and Budget (OMB) has announced changes for Core Based Statistical Areas (65 FR 82228, 12/27/2000 FR) and plans to publish new lists of areas in June 2003. EPA will be evaluating OMB's new lists after they are released to determine whether they concur and/or can still use OMB's new definition for purposes of the starting point for nonattainment area boundaries. At that time EPA will also look at the nonattainment boundary guidance memo of 3/28/2000 to see if it might need updating based on the OMB work.
- B. If monitors in the Tri-Cities MSA reflect nonattainment when EPA's 8-hour implementation guidelines call for designations or at any time during the area's participation in the Early Action Compact, EPA will defer the effective date of nonattainment designation and related requirements for the area as long as all terms and milestones of the Compact are being met, including submission of the early action SIP revision by 2004.
- C. The EPA will provide technical assistance to all Tennessee and Virginia participants in the development of the early action plan.

- D. The EPA will move quickly to review and approve completed plans by no later than nine months after submission of the SIP revision by TDEC.
- E. Provided that the area has progressed from nonattainment to attainment status by December 31, 2007, EPA will move expeditiously to designate the area as attainment and impose no additional requirements.
- F. If at any time the area does not meet all the terms of this compact, including meeting agreed-upon milestones, then it will forfeit its participation and be designated (or re-designated if necessary) according to EPA's 8-hour ozone implementation guidelines. The EPA will offer such an area no delays, exemptions or other favorable treatment because of its previous participation in this program.
- G. If any of the monitors identified in Table 1 violates the standard after December 31, 2007, the area will be designated nonattainment. TDEC will then submit a revised attainment demonstration SIP revision according to the Clean Air Act (CAA) and EPA's 8-hour implementation rule, unless the 8-hour implementation schedule requires SIPs from 8-hour nonattainment areas before December 31, 2008. In that event, a revised attainment demonstration SIP revision for the participating area will be due as soon as possible but no later than December 31, 2008. In no event will EPA extend the attainment date for the area beyond that required by the CAA and/or EPA's 8-hour implementation rule.
- H. The region will not be allowed to renew this EAC after December 31, 2007, or to initiate a new compact if it has previously forfeited its participation.

3.4 Termination Provision:

This Early Action Compact is offered to EPA in good faith as a way to achieve clean air quicker with the opportunity to tailor a control plan in the most beneficial way possible to a the Tri-Cities MSA. It is expressly declared that prior to adoption of early control measures into the SIP, a signatory to this Early Action Compact may opt out of the process by filing a written notice to the other signatories. In filing said written termination notice, the terminating entity will revert to the routine attainment designation process provided in the Clean Air Act and its implementing regulations in effect at the time of the signing of this document. It is also recognized that if **EPA deems** the terminating entity's emissions **are critical** to the success of an Early Action Compact, EPA may nullify the Early Action Compact for the entire MSA.

In evaluating certain public participation documents that were filed as part of the process that created this document, it is apparent that not all entities agree with the concept of an Early Action Compact. If litigation should ensue that results in the inability of any entity to live up to the commitments made including actual SIP revisions, then the signatories shall have the option of withdrawing all or part of any SIP revision given to EPA as part of the Early Action Compact and EPA shall honor that withdrawal.

3.5 Signatures

The signatory below, as authorized by the Tennessee Air Pollution Control Board Resolution approved December 11, 2002, has agreed to this Early Action Compact, which becomes effective on December 27, 2002. All other signatories shall be attached as appropriate.

Mr. Richard A. Bolton, Vice-Chairman
Tennessee Air Pollution Control Board

Date

4.0 Table of Acronyms as Used in this Document

MSA	Metropolitan Statistical Area
EAC	Early Action Compact
EPA	Environmental Protection Agency
TAPCB	Tennessee Air Pollution Control Board
SIP	State Implementation Plan
ppb	parts per billion
GVWR	Gross Vehicle Weight Rating
OBD II	On Board Diagnostics
I/M	Inspection and Maintenance
TVA	Tennessee Valley Authority
NAAQS	National Ambient Air Quality Standards
AQIP	Air Quality Improvement Plan
SAMI	Southern Appalachian Mountain Initiative
VISTAS	Visibility Improvement State and Tribal Association of the Southeast
VOC	Volatile Organic Compound
NO _x	Nitrogen Oxide
TDEC	Tennessee Department of Environment and Conservation
MPO	Metropolitan Planning Office
TDOT	Tennessee Department of Transportation
CAA	Clean Air Act